

AMENDMENTS TO THE CLAIMS

Please cancel claim 12 and amend claims 1-11 and 13-20 as follows. Following is a complete listing of the pending claims.

1. (Currently Amended) A coupling device for a shaft, comprising:
 - a coupling disk associated with coupled to an out-extending shaft;
 - a disk ~~connected with~~ coupled to an external force member;
 - a first concave-convex assembly which is ~~press-engaged with said the disk and has~~ a first helicoid engaging surface;
 - a second concave-convex assembly which is engaged with said ~~the~~ coupling disk and has a second helicoid engaging surface engaged with the first helicoid engaging surface; and
 - a force generating source member provided between said ~~the~~ coupling disk and said ~~the~~ disk, characterized in that wherein:
 - said ~~the~~ first and second concave-convex assemblies are configured positioned to be a-pressed against and engaged with each other, and wherein at least one of the first and second concave-convex assemblies is movable relative to the other to effect a engagement arrangement in-which-rotational angular displacement and an axial displacement relative to each the other-is operable;
 - said ~~the~~ first concave-convex assembly and said ~~the~~ disk are configured positioned to be an-axial press engagement arrangement in-which pressed against and engaged with each other, with at least one of the first concave-convex assembly and the disk being movable relative to the other to effect a rotational sliding angular displacement between said the first concave-convex assembly and said the disk relative to each other-is operable;

an external force association member is provided ~~positioned~~ between said the first concave-convex assembly and an external force member, and said the external force association member and said the first concave-convex assembly are configured-positioned to be pressed against and engaged with each other in a radial press-engagement arrangement in which an direction, and wherein at least one of the external force association member and the first concave-convex assembly is movable relative to the other to effect an axial sliding displacement between said the external force association member and said the first concave-convex assembly relative to each other is operable; and ~~said concave-convex assembly is mounted on said coupling disk, and two ends of said force generating source member are connected with said coupling disk and said disk;~~
upon action of said ~~the~~ force generating source member, said the disk is associated-coupled with said the out-extending shaft through said via the coupling disk so that said the external force member and said the out-extending shaft are associated-coupled.

2. (Currently Amended) The coupling device ~~for a shaft according to of~~ claim 1, further comprising:

a friction block provided between said ~~the~~ coupling disk and said the disk ; and
a retaining member which is coupled with said friction block, wherein:
friction surfaces respectively extending from said ~~the~~ coupling disk and said the disk
are engage-engagable with said the friction block.

3. (Currently Amended) The coupling device ~~for a shaft according to of~~ claim 2, wherein:

said ~~the~~ friction surfaces include an inner disk body and an outer friction ring,
wherein:

said ~~the~~ inner disk body and said ~~the~~ outer friction ring are provided therein with an outer threaded block, a compensation spring and a key pin.

4. (Currently Amended) The coupling device ~~for a shaft according to~~ of claim 1~~2~~, wherein:

said ~~the~~ first and second concave-convex assemblies are supported on a left end plate and a right end plate of said ~~the~~ retaining member through bearings, respectively.

5. (Currently Amended) The coupling device ~~for a shaft according to~~ of claim 4, wherein:

said ~~the~~ second concave-convex assembly is provided with an inner brake ring.

6. (Currently Amended) The coupling device ~~for a shaft according to~~ of claim 1, wherein:

said ~~the~~ first and second concave-convex assemblies are provided with an insert rod and insert slot which correspond to each other so as to be locked with each other, and said ~~the~~ insert rod is mounted inside an outer threaded sleeve of a release-ensuring frame;

one end of a release-ensuring spring is connected with a plug of said ~~the~~ insert rod, and the other end of said ~~the~~ release-ensuring spring is connected with a cap;

inner threads of said ~~the~~ cap are connected with said ~~the~~ outer threaded sleeve, and said ~~the~~ insert rod passes through a hole of said ~~the~~ cap so as to be connected with a centrifugal cap.

7. (Currently Amended) The coupling device ~~for a shaft according to of~~ claim 1, wherein:

said ~~the~~ coupling disk is assembled ~~coupled~~ to said ~~the~~ out-extending shaft through a shaft coupling member.

8. (Currently Amended) The coupling device ~~for a shaft according to of~~ claim 1, wherein:

said ~~the~~ first concave-convex assembly and said ~~the~~ external force association member are ~~configured-positioned~~ to be engaged with each other ~~through via~~ an outer spline and an inner spline.

9. (Currently Amended) The coupling device ~~for a shaft according to of~~ claim 1, wherein:

said ~~the~~ force generating source member comprises a press spring.

10. (Currently Amended) The coupling device ~~for a shaft according to of~~ claim 1, wherein:

a friction member is provided between said ~~the~~ first concave-convex assembly and said ~~the~~ external force association member; and
said ~~the~~ friction member ~~is engages-engagable~~ with said ~~the~~ first concave-convex assembly and said ~~the~~ external force association member, respectively.

11. (Currently Amended) The coupling device ~~for a shaft according to of~~ claim 10, wherein:

said ~~the~~ friction transmission member is provided between said ~~the~~ first concave-convex assembly and said friction member; and
said ~~the~~ friction transmission member engages with said ~~the~~ first concave-convex assembly and said ~~the~~ friction member respectively.

12. (Cancelled)

13. (Currently Amended) The coupling device ~~for a shaft according to~~ of claim 1, wherein:

said ~~the~~ disk includes a release-ensuring frame projectinged from therefrom;
said ~~the~~ first concave-convex assembly includes a cylindrical sleeve ~~which is fitted over thereon~~; and
a locking member ~~(a)~~ is fixedly engaged with said ~~the~~ release-ensuring frame and
said ~~the~~ cylindrical sleeve so that relative rotational movement between said
the first and second concave-convex assemblies is locked.

14. (Currently Amended) The coupling device ~~for a shaft according to~~ of claim 8, wherein:

said ~~the~~ first concave-convex assembly is ~~provided with an~~ coupled to the inner
spline ~~so as to engage with an outer spline provided on said~~ and the second
concave-convex assembly is coupled to the outer spline.

15. (Currently Amended) The coupling device ~~for a shaft according to~~ of claim 3, wherein:

said ~~the~~ outer friction ring engages with a ~~right~~ further friction ring ~~through said~~ via
the key pin, ~~and said right friction ring is associated with said friction ring~~.

16. (Currently Amended) The coupling device ~~for a shaft according to~~ of claim 1, wherein:

a pull rod is mounted on said ~~the~~ coupling disk and passes through a circular hole of
said ~~the~~ disk so as to be ~~associated with said~~ coupled to the disk.

17. (Currently Amended) The coupling device ~~for a shaft according to~~ of claim 9, wherein:

a pull rod is mounted on ~~said the~~ coupling disk and passes through a circular hole of ~~said the~~ disk so as to be associated with ~~said coupled to the~~ disk.

18. (Currently Amended) The coupling device ~~for a shaft according to~~ of claim 17, wherein:

~~said the~~ press spring is fitted over ~~said the~~ pull rod, wherein:

one end of ~~said the~~ press spring is pressed against and mounted on ~~said the~~ disk, and the other end of ~~said the~~ press spring is mounted on ~~said the~~ pull rod.

19. (Currently Amended) The coupling device ~~for a shaft according to~~ of claim 2, wherein:

~~said the~~ retaining member is ~~mounted on a relatively movable object so as to~~ achieve a coupling clutch function.

20. (Currently Amended) The coupling device ~~for a shaft according to~~ of claim 2, wherein:

~~said the~~ retaining member is ~~mounted on a relatively static object so as to~~ achieve a coupling brake function.